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I. CIGARETTE BEETLE GROWTH ON VARIOUS CULTURE MEDIA

A series of beetle cultures incorporating various P.M. tobaccos as media was initiated in August for the purpose of demonstrating the effects of the latter on cigarette beetle growth and development.[1] Final results were as follows:

CULTURE MEDIUM	DAYS TO INITIAL ADULT EMERGENCE	DAYS TO FINAL ADULT EMERGENCE	AVER. NO. OF BEETLES PER CULTURE	AVER. WEIGHT PER BEETLE IN MGS.
Flour-yeast control	31	60	2582	2.17
Bright	60	120	94	1.14
Burley	68	120	17	-- (a)
Turkish	60	120	48	1.00
RCB	70	99	18	0.92
RKS	60	120	153	1.41
ET	69	120	88	1.07
Filler	60	120	127	1.10

(a) Insufficient number of beetles available at any one time to permit significant weighing.

Burley tobacco has never appeared to be too attractive to the cigarette beetle, and the above data reinforces this belief. RCB is equally unattractive in this respect. There is no questioning the superiority of the flour-yeast medium over the tobacco media for the production of vigorous colonies of the beetle. RKS, Bright, filler and ET tobaccos rank in that order in decreasing attractiveness to the cigarette beetle.

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II. EFFECT OF SOME ACIDS ON THE GROWTH OF THE CIGARETTE BEETLE

The growth inhibition effect of adding 1% levels of the following acids to the flour medium employed to culture the cigarette beetle is shown below:[2]

MEDIUM AND ACID	NO. OF ADULT BEETLES DEVELOPED/JAR (a)
Flour and yeast control	1913
Flour	959
Flour and 1% sorbic acid	24
Flour and 1% citric acid	965
Flour and 1% malic acid	887
Flour and 1% propionic acid	49

(a) Each jar inoculated with 100 adult beetles

The decline in beetle population brought about by the action of sorbic and propionic acids was not unexpected. Both of these acids possess fungicidal activity, and apparently they eliminated the yeast symbionts found within the midgut of the cigarette beetles and which function as producers of essential B complex vitamins.

III. REFERENCES

1. R. Lehman 6186/47-53, 74-75
2. R. Lehman 6186/45-46, 54-56

/slb

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